

REMARKS/ARGUMENTS

This Amendment is being filed in response to the Final Office Action dated August 3, 2009. Reconsideration and allowance of the application in view of the amendments made above and the remarks to follow are respectfully requested.

Claims 39-63 are pending in the Application. Claims 39 and 50 are independent claims. By means of the present amendment, claims 39 and 50 are amended to correct certain informalities noted upon review of the claims. By these amendments, claims 39 and 50 are not amended to address issues of patentability and Applicants respectfully reserve all rights under the Doctrine of Equivalents. Applicants furthermore reserve the right to reintroduce subject matter deleted herein at a later time during the prosecution of this application or continuing applications.

The specification is amended herein to clarify that "[t]he method according to the invention makes substantial use of an arrangement as described in the unpublished German patent application having the number 101 51 778.5 which corresponds to U.S. Patent Publication No. 2003/0085703, filed October 15, 2002, which is incorporated by reference. Reference is hereby also made to the aforementioned patent application in respect of preferred

embodiments of this arrangement." An IDS citing German patent application having the number 101 51 778.5 and U.S. Patent Publication No. 2003/0085703 is being forwarded by the Applicants for the Examiner's review and consideration.

No new matter is added by this amendment, although the term "incorporated by reference" is added herein, as the specification clearly set out that "reference is hereby also made to the aforementioned patent application in respect of preferred embodiments of this arrangement." (See, Application, page 3, lines 26-29.) Further, the Application makes clear that "the arrangement for generating a magnetic gradient field essentially corresponds to that of the unpublished German patent application having the number 101 51 778.5." (See, Application, page 10, lines 18-20.)

As such, it is respectfully submitted that the Application as originally filed clearly conveys an intent to incorporate the material referenced in German patent application and sufficiently described the referenced German patent application that corresponds to U.S. Patent Publication No. 2003/0085703, to uniquely identify the document. As noted above, an IDS citing German patent application having the number 101 51 778.5 and U.S. Patent

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Accordingly, consideration and entrance of the amendment to the specification is respectfully requested.

In the Final Office Action, the Abstract is objected to because it is alleged it does not set forth the nature and gist of the invention. Without agreeing with the Final Office Action, and to advance prosecution and expedite consideration and allowance of the Application, the Abstract has been deleted and substituted with the enclosed New Abstract which is directly derived from claims 39 and 50. Accordingly, withdrawal of the objection to the Abstract is respectfully requested.

In the Final Office Action, the suggested guideline of a preferred layout for the specification is noted. Although Applicants gratefully acknowledge the noted guideline, Applicants respectfully decline to add the section headings as they are not required in accordance with MPEP §608.01(a).

In the Final Office Action, claims 39 and 50 are objected to since it is alleged that "it is unclear how a magnetic field is generated with two different strengths, and therefore, it is also unclear how the spatial location of both sub-areas is changed."

This objection to claims 39 and 50 is respectfully traversed. It is respectfully submitted that the specification makes clear how the magnetic field is generated and how the spatial location of both sub-areas is changed.

Specifically, the specification makes clear that "the arrangement for generating a magnetic gradient field essentially corresponds to that of the unpublished German patent application having the number 101 51 778.5." (See, Application, page 10, lines 18-20.) As noted herein, the German patent application having the number 101 51 778.5 corresponds to U.S. Patent Publication No. 2003/0085703, and each sets out how the magnetic field is generated with two different strengths, and how the spatial location of both sub-areas is changed. Accordingly, withdrawal of the objection to claims 39 and 50 is respectfully requested.

In the Final Office Action, claims 39-61 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 7,300,452 and claims 1-8 and 11-17 of copending U.S. Patent Application No. 10/270,991. The Examiner indicates that a terminal disclaimer may be used to overcome these provisional rejections. It is respectfully submitted that Applicants will consider filing a terminal disclaimer, if necessary in view of any allowable claims,

upon indication that the present application is otherwise allowable or includes allowable claims.

In the Final Office Action, claims 39-43 and 49-56 are rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,470,220 to Kraus ("Kraus") in view of non-patent literature by Daniel J. Hawrysz et al. "Developments toward Diagnostic Breast Cancer Imaging Using Near-Infrared Optical Measurements and Fluorescent Contrast Agent" ("Hawrysz"). In addition, claims 57-63 are rejected under 35 U.S.C. §103(a) over Kraus in view of Hawrysz in view of DE19930408 to Hauger ("Hauger") or DE19624167 to Fercher ("Fercher"). This rejection of claims 39-63 is respectfully traversed. It is respectfully submitted that claims 39-63 are patentable over Kraus in view of Hawrysz alone and in any combination with Hauger and Fercher for at least the following reasons.

It is undisputed that Kraus does not teach, disclose or suggest "a detector which is modulated by interaction with rotating or oscillating the magnetic particles [in] the target area to detect a signal as function of a change in rotation or oscillation of the magnetic particles due to modulation of the detected electromagnetic radiation." (See, Final Office Action, page 5.) Hawrysz is cited to provide that which is admitted missing from

Kraus, however, it is respectfully submitted that reliance on Hawrysz is misplaced.

It is undisputed that "Daniel J. Hawrysz et al. teach the use of near infrared fluorescent contrast agent in optical mammography, using Frequency-domain photon migration (FDPM) imaging techniques to measure optical properties by modulating incident light intensity sinusoidally" as alleged on page 5 of the Final Office Action, however, Hawrysz teaches intensity modulation such that the signal is akin to a pulsed light source prior to illuminating the object under examination (see, Hawrysz, section 2.3 and FIG. 15).

It is respectfully submitted that Hawrysz does not teach, disclose or suggest that which is admitted missing from Kraus, namely, detecting electromagnetic radiation from the irradiated target area, wherein detected electromagnetic radiation includes at least one of reflected electromagnetic radiation and scattered electromagnetic radiation, which is modulated by interaction with rotating or oscillating magnetic particles in the target area as substantially recited in each of claims 39 and 50.

In fact, Hawrysz is completely deficient in any teaching of electromagnetic radiation which is modulated by interaction with rotating or oscillating magnetic particles.

Further, there is no apparent reason provided in either of Kraus or Hawrysz, absent the benefit of impermissible hindsight derived from the instant disclosure, for one skilled in the art to suggest determining at least one of an intensity, absorption and polarization of the detected electromagnetic radiation as a function of a change in rotation or oscillation of the magnetic particles due to the modulation of the detected electromagnetic radiation, as substantially recited in independent claims 39 and 50, since neither of Kraus and Hawrysz show modulation of an irradiating electromagnetic radiation, which is modulated by interaction with rotating or oscillating magnetic particles in the target area caused by a superposed oscillating or rotating magnetic field.

It is respectfully submitted that this teaching is completely missing from both of Kraus and Hawrysz and as such, the combination of each can not be said to suggest the presently recited system.

It is respectfully submitted that the method of claim 1 is not anticipated or made obvious by the teachings of Kraus in view of Hawrysz. For example, Kraus in view of Hawrysz does not teach, disclose or suggest, a method that amongst other patentable elements, comprises (illustrative emphasis added) "generating a superposed oscillating or rotating magnetic field at least

partially in the first part-area having a low magnetic field strength to cause at least some magnetic particles to oscillate or rotate; irradiating the target area with electromagnetic radiation; detecting electromagnetic radiation from the irradiated target area, wherein detected electromagnetic radiation includes at least one of reflected electromagnetic radiation and scattered electromagnetic radiation, which is modulated by interaction with rotating or oscillating magnetic particles in the target area; and determining at least one of an intensity, absorption and polarization of the detected electromagnetic radiation as a function of a change in rotation or oscillation of the magnetic particles due to the modulation of the detected electromagnetic radiation" as recited in claim 39.

Similarly, with regard to claim 50, Kraus in view of Hawrysz does not teach, disclose or suggest an apparatus for examining an object which, amongst other patentable elements, comprises (illustrative emphasis provided) "at least one radiation source for generating electromagnetic radiation to irradiate the target area; at least one detector for detecting electromagnetic radiation from the irradiated target area, wherein detected electromagnetic radiation includes at least one of reflected electromagnetic radiation and scattered electromagnetic radiation, which is

modulated by interaction with magnetic particles in the target area; and an evaluation unit for processing the detected radiation signals to determine at least one property of the detected electromagnetic radiation as modulated by the interaction with the magnetic particles" as recited in claim 50.

Moreover, Hauger and Fercher are introduced for allegedly showing elements of the dependent claims and as such, do nothing to cure the deficiencies in Kraus in view of Hawrysz.

Based on the foregoing, the Applicants respectfully submit that independent claims 39 and 50 are patentable over Kraus in view of Hawrysz and notice to this effect is earnestly solicited.

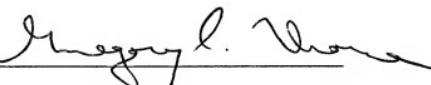
Claims 40-49 and 51-63 respectively depend from one of claims 39 and 50 and accordingly are allowable for at least this reason as well as for the separately patentable elements contained in each of the claims. Accordingly, separate consideration of each of the dependent claims is respectfully requested.

In addition, Applicants deny any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Applicants reserve the right to submit further arguments in support of the above stated position,

should that become necessary. No arguments are waived and none of the Examiner's statements are conceded.

Applicants have made a diligent and sincere effort to place this application in condition for immediate allowance and notice to this effect is earnestly solicited.

Respectfully submitted,

By, 

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